What is claimed is:

1. A method of increasing a signal-to-noise ratio for at least one carrier in a multicarrier transceiver comprising the steps of:

receiving and storing at least one decoder error for the at least one carrier;

determining at least one two-dimensional adaptive filter tap for each of the at least one carrier in accordance with the at least one decoder error;

determining a noise estimate relating to the at least one decoder error and the at least one two-dimensional adaptive filter tap;

receiving an equalizer output; and

determining a signal having increased signal-to-noise ratio in response to the noise estimate and the equalizer output.

2. The method of claim 1, wherein the at least one decoder error is an uncanceled decoder error.

3. The method of claim 1, wherein the step of determining at least one adaptive filter tap comprises the minimization of the mean squared error.

4. The method of claim 3, wherein the minimization of the mean squared error is performed in accordance with the relation:

$\xi = E\{e(i,j)^2\} = E\{(f(i,j)y(i,j)\text{-}x(i,j) - \vec{h}_{ij}\vec{e}(i,j)^T)^2\}$ where $x(i,j)$ is a known copy of the transmitted data for the j^{th} bin and the i^{th} symbol, $f(i,j)$ is the FEQ coefficient, $y(i,j)$ is the FFT output, and $\vec{h}_{i,j}\vec{e}(i,j)^T$ is the impulse response filtering of the uncanceled decoder error vector $\vec{e}(i,j)$ with filter coefficient vector $\vec{h}_{i,j}$.

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5. The method in claim 3, wherein the minimization of the mean squared error is performed in accordance with the relation:

$\bar{h}_{i+1,j} = \bar{h}_{ij} + \alpha\left(f(i,j)y(i,j)\text{-}x(i,j) - \bar{h}_{ij}\bar{\hat{e}}(i,j)^T\right)conj\left(\bar{\hat{e}}(i,j)\right)$ where $x(i,j)$ is a known transmitted symbol, $f(i,j)$ is the FEQ coefficient corresponding to the i^{th} symbol and j^{th} bin, where $y(i,j)$ is the FFT output of the corresponding i^{th} symbol and the j^{th} bin, where $\bar{h}_{i,j}$ is the filter coefficient vector, where α is the corrective coefficient, where $\bar{h}_{i,j}\bar{\hat{e}}(i,j)^T$ is the impulse filtering of the constellation error vector $\bar{\hat{e}}(i,j)$ with filter coefficient vector $\bar{h}_{i,j}$, and where $conj(\bar{\hat{e}}(i,j))$ is the complex conjugate of the input signal to the filter.

6. A computer readable medium having stored therein instructions for causing a central processing unit to execute the method of claim 1.

7. A device for increasing a signal-to-noise ratio for at least one carrier in a multicarrier transceiver comprising:

a canceller, wherein the canceller receives at least one decoder error for the at least one carrier and an equalizer output;

a symbol storage unit, wherein the symbol storage unit stores the at least one decoder error;

wherein the canceller determines at least one two-dimensional adaptive filter tap for each of the at least one carrier in accordance with the at least one stored decoder error, and determines a noise estimate relating to the at least one decoder error and the adaptive

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filter tap, and wherein the signal-to-noise ratio of at least one carrier is increased in response to the noise estimate and the equalizer output.

8. The device in claim 7, wherein the multicarrier transceiver utilizes asymmetric digital subscriber line technology ("ADSL").

9. The device in claim 7, wherein the canceller can determine a one dimensional filter tap for each of the at least one carriers.

10. The device in claim 7, wherein the symbol storage unit stores the at least one decoder error for a plurality of carriers in the multicarrier transceiver.

11. The device in claim 10, wherein the at least one decoder error stored in the symbol storage unit is updated as the canceller receives a more recent in time decoder error.

12. A device for increasing a signal-to-noise ratio for a plurality of carriers in a multicarrier transceiver comprising:

a canceller, wherein the canceller receives at least one decoder error for each of the plurality of carriers and an equalizer output corresponding to each of the plurality of carriers to determine at least one two-dimensional filter tap for each of the plurality of carriers;

a symbol storage unit, wherein the symbol storage unit stores at least one decoder error for each of the plurality of carriers;

wherein the canceller determines a noise estimate relating the at least one decoder error and the adaptive filter tap corresponding to each of the plurality of carriers, and

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wherein the signal-to-noise ratio of the plurality of carriers is increased in response to the noise estimate and the equalizer output corresponding to each of the plurality of carriers.

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